

Remarks

Prior Rejections

All prior rejections have been withdrawn.

Section 102

The first issue is whether applicant's claims 16, 17, 19, 21, 24-26 and 29 are anticipated by the Bronkhorst reference. The claims have been amended and, as such, are not anticipated by this reference.

A claim is anticipated only if each and every element as set forth in the claim is found in a single cited art reference. See Verdegaal Bros. v. Union Oil of California, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. See Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claims 16 and 21 have been amended to indicate that the target cell is not an erythrocyte. This consistent with the applicant's specification, in which a number of examples of non-erythrocyte target cells are disclosed (See specification, pages 9, lines 5-20). This section plainly states that the example of auxiliary cell is an erythrocyte, and the target cells are "Different cells (cells of connective tissue, epithelial cells, pancreatic cells - adherent cells as well as cells in suspension)." This is entirely consistent with further examples in the present specification (see specification, pages 10, 11.)

In contrast, the cited reference is limited to red cell (dis)aggregation. As noted in the abstract and throughout the entire Bronkhorst reference, the disclosed assay is limited to an investigation of red cell aggregation. Red cells were already know to form aggregates (rouleaux)

under various conditions. This paper explored the biomechanics of such aggregation. What had not been disclosed, either in this reference or elsewhere, is the use of erythrocytes as an auxiliary object to adhere to a target cell which is not an erythrocyte and then to use an optical tweezer to induce a mechanical force onto the cell. This is simply not found in the cited reference or any of the references cited to date. Without such a teaching, the claims, as amended are allowable.

### Section 103

The second issue is whether the applicant's claims are rendered obvious by a combination of references. Again, reconsideration is warranted.

In making an obviousness rejection, the Examiner must first determine the scope and content of the prior art, ascertain the differences between the prior art and the claims in issue, and resolve the level of ordinary skill in the art. Graham v. John Deere 148 USPQ 459 (1966). In order to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 180 USPQ 580 (CCPA 1974). Under these standards the present claims are not obvious.

Claims 16, 17, 19, 21, 24-26, 28 and 29 were determined to be obvious under Bronkhorst in view of Visscher. As noted above, the claims have been amended to be directed to adherence of a target cell that is not an erythrocyte to an auxiliary object, which may be an erythrocyte. As noted this is not disclosed in Bronkhorst, which is limited to the study of erythrocyte aggregation. Thus this reference does not teach what is claimed in the applicant's independent claims 16 and 24. Visscher does not remedy this deficiency. As such the present rejection should be reconsidered and withdrawn.

The rejection of dependent claims 17, 19, 21, 25, 26, 28 and 29 should also be withdrawn for at least this same reason.

Finally, claims 16 and 18 were rejected as obvious under Bronkhorst in view of Kelm. As noted, Bronkhorst is limited to multiple optical trapping of red blood cells. As discussed throughout this reference, the use of multiple forces on the red cells was then used to explore the adhesion of red cells to each other. This would appear to limit the Bronkhorst reference, by the stated assays and required optical systems and configurations, to exploration of only the adhesion of two targets, both of which are able to be manipulated by optical tweezers. In contrast the teachings of Kelm do not include the use of optical tweezers, but simply teach adherence generally.

While it was known that various cells aggregate, a mechanism for a straightforward force exertion onto a range of non-erythrocyte cells was not known. This is what is missing from the cited references, either alone or in combination. Given this fact, this rejection also should be reconsidered and withdrawn.

Conclusion

In light of the amendments to the claims and the submitted remarks, the present rejection should be reconsidered, and the present claims allowed. A notice of allowance is earnestly solicited. The Examiner is invited to contact the undersigned attorney at (408) 297-9733 between 9 AM and 5 PM Pacific Time to ask any needed questions.

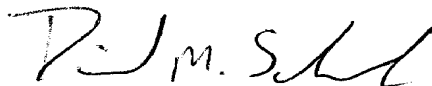
Respectfully submitted,

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UNDER 37 C.F.R. §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with §1.6(a)(4) on the date shown below.

Signed: Merle P. Garcia  
Typed Name: Merle P. Garcia

Date: September 12, 2008



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